

Sine Law 5.3 p283-290

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$



$$\frac{\sin A}{a} = \frac{\sin B}{b} \quad \frac{a}{\sin A} = \frac{b}{\sin B}$$

- non-right triangles
- need matching pair (determine scale of triangle)

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Solve

$\angle A \sim 180 - (45 + 35)$
 $\angle A \sim 100 - (80)$
 $\angle A \sim 100$
 $\angle A = 100$ (sum of int Δ)

$\frac{\sin B}{b} = \frac{\sin C}{c}$
 $\frac{\sin 45}{8} = \frac{\sin 35}{c}$
 $\sin 45 (c) = \sin 35 (8)$
 $c = \frac{\sin 35 (8)}{\sin 45}$
 $c = \frac{(0.5736)(8)}{(0.7071)}$
 $c = 6.5$

$\frac{b}{\sin B} = \frac{a}{\sin A}$
 $\frac{b}{\sin 45} = \frac{a}{\sin 100}$
 $\sin 45 (a) = \sin 100 (b)$
 $a = \frac{\sin 100 (b)}{\sin 45}$
 $a = \frac{0.9848 (b)}{0.7071}$
 $a = 1.1$

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$\frac{\sin 35}{4.2} = \frac{\sin \theta}{6}$
 $6 \left(\frac{\sin 35}{4.2} \right) = \sin \theta$
 $6 \left(\frac{0.5736}{4.2} \right) = \sin \theta$
 $0.8194 = \sin \theta$
 $\sin^{-1}(0.8194) = \theta$
 $55^\circ = \theta$

Oct 26-12:10 PM

Sine Law p 288-290

q. 1, 3a, 4, 8-13*

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24cm longer

$180 - (54 + 38)$
 $= 180 - 92$
 $= 88$

$\frac{\sin 38}{x} = \frac{\sin 88}{x+24}$
 $\sin 38 (x+24) = \sin 88 x$
 $(0.6157)(x+24) = (0.9994)x$
 $0.6157x + 14.8 = 0.9994x$
 $14.8 = 0.9994x - 0.6157x$
 $14.8 = 0.3837x$
 $0.3837x = 14.8$
 $38.6 = x$

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